



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,408	06/09/2006	Eginhard Werner Vietz	3519-0157	1145
6449 7590 05/27/2010 ROTHWELL, FIGG, ERNST & MANBECK, P.C. 1425 K STREET, N.W. SUITE 800 WASHINGTON, DC 20005				
EXAMINER				
DANG, KET D				
ART UNIT		PAPER NUMBER		
3742				
NOTIFICATION DATE		DELIVERY MODE		
05/27/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

Office Action Summary

Application No.

10/582,408

Applicant(s)

VIET ET AL.

Examiner

KET D. DANG

Art Unit

3742

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 19-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 19-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date _____
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is responsive to the amendment filed on February 22, 2010. As directed by the amendment: claims 1-16 have been amended, claims 17-18 have been cancelled and claims 19-27 have been added. Thus, claims 1-16 and 19-27 are presently pending in this application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-5, and 10-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the orbital position" at line 3 on page 10 in the claim. There is insufficient antecedent basis for this limitation in the claim. Furthermore, the limitation "the high-power laser beam source" at line 5 on page 10 in the claim. There is insufficient antecedent basis for this limitation in the claim. In addition, the limitation "a high-power laser beam source" at line 9 on page 10 renders the claim indefinite. It is unclear for whether this high-power laser beam source is the same as the one recited at line 5 on page 10. If it is so, then "a" should be replaced with "the" or "said". If it is not, then essential structural cooperative relationships between the two are suggested.

Claim 9 recites the limitation "the speed of advance of the orbital carriage" at line 7 in the claim. There is insufficient antecedent basis for this limitation in the claim.

Claims 15 and 25, the phrase "can be" at line 15 renders the claim indefinite for not providing positive limitation. The term "substantially" in claim is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claims 16 and 26 recite the limitation "Transport vehicle" at line 1 in the preamble of the claim renders the claim indefinite. It is unclear for whether this transport vehicle is the same as the one recited at line 2 in claim 15 and at line 1 in claim 25, respectively, or new claims. If it is so, then "the" or "said" should be used. If it is not, then essential structural cooperative relationships between the two are suggested. Since both claims 15 and 25 are directed to "Orbital welding device", the preamble of claims 16 and 26 should be directed to the orbital welding device as well.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1-5, 9-16, and 19-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Black (.US 5,227,601) in view of Motoi (JP 02127974), Imanaga et al. (JP 08267242), and further in Kawamoto (US 5,601,735).
6. Regarding claims 1-3, 9-11, 15, 20-21, and 25-27, Black discloses orbital welding device (abstract) for mobile use for joining a first pipe end 10 (fig. 1) and a second pipe end 12 (fig. 1) along a circumferential joint by means of at least one weld seam (col. 4, lines 12-16; col. 6, lines 14-16)) for producing a pipeline to be laid on land comprising: a guide ring 24 (fig. 2) (abstract) oriented relative to the first pipe end and the circumferential joint, an orbital carriage B (fig. 1) (abstract) displaceably guided at least along a section of the guide ring, a feed device 40 (fig. 1) for moving the orbital carriage under motor power along the guide ring, a welding head C (fig. 1) (abstract) which is arranged on the orbital carriage B (fig. 1) (abstract) in alignment with the circumferential joint 14 (fig. 1) so that, by moving the orbital carriage, the weld seam is produced at least along a section of the circumferential joint (col. 4, lines 12-16), and a wire feed unit (abstract; col. 7, lines 32-56).

With respect to claims 4-5, Black discloses welding wire W (fig. 2) (abstract; col. 7, lines 32-56).

Black discloses all of the limitations of the claimed invention as set forth above, except for a mobile welding device which is a distance away from the orbital carriage and is connected via the connecting line to the welding head and provided the power required for producing the weld seam; an orbital position sensor for detecting the orbital position of the orbital carriage; and a first process parameter control which is connected

to the orbital position sensor and at least to the high-power laser beam source in such a way that laser radiation parameters are automatically adapted as a function of the orbital position of the orbital carriage; a waveguide; and image sensor and processing; and a high-power fibre laser beam source.

However, a mobile welding device which is a distance away from the orbital carriage is known in the art. Motoi, for example, teaches a mobile welding vehicle or transport vehicle which is a distance away from the orbital carriage (see abstract and figure). Motoi further teaches such a configuration provides a means to travel to the site or field to perform welding operation (abstract) and cost saving due to transporting pipes to a designate location. It would have been obvious to one of ordinary skill in the art to modify Black with teaches a mobile welding vehicle which is a distance away from the orbital carriage of Motoi in order to provide a means to travel to the site or field to perform welding operation and cost saving due to transporting pipes to a designate location.

Similarly, the connecting line to the welding head and provided the power required for producing the weld seam; an orbital position sensor for detecting the orbital position of the orbital carriage; and a first process parameter control which is connected to the orbital position sensor are known in the art. Imanaga, for example, teaches the connecting line to the welding head (para. 0010) and provided the power required for producing the weld seam; an orbital position sensor 21 (fig.1) for detecting the orbital position of the orbital carriage; and a first process parameter control which is connected to the orbital position sensor (abstract) (para. 0018, 0032, and 0036-0037).

With respect to claims 12-14 and 22-24, Imanaga teaches a sensor image processor 22 (fig. 1) (abstract; para. 0012, 0019, and 0046).

Imanaga further teaches such a configuration provides continuous orbital welding (para. 0036). It would have been obvious to one of ordinary skill in the art to modify Black with the features set forth above of Imanaga in order to provide continuous orbital welding.

In addition, the high-power laser beam source and a waveguide are also known in the art. Kawamoto, for example, teaches laser beam source or fibre laser beam 16A (fig. 10) (col. 8, lines 21 – col. 9, lines 2) and a waveguide (abstract; col. 5, lines 5-14). It is known in the art that such a configuration provides a welding system in which the laser source is brought close to the pipe joint to be welded so that energy is not lost through beam attenuation and so that accuracy of the weld spot is not lost due to sags inherent in a long pipeline. It is also known in that such configuration provides a welding system in which the laser beam on a carriage assembly located in the neighborhood of the pipe joint is accurately delivered to the welding joint using a reflecting surface or a laser beam conductor to perform a 360° weld about a pipeline while maintaining the alignment of the laser generation and transportation system to deliver the focal power precisely along the pipe joint to be welded. It would have been obvious to one of ordinary skill in the art to modify Black with laser beam source and a waveguide of Kawamoto in order to provide a welding system in which the laser source is brought close to the pipe joint to be welded so that energy is not lost through beam attenuation and so that accuracy of the weld spot is not lost due to sags inherent in a long pipeline.

And also provides a welding system in which the laser beam on a carriage assembly located in the neighborhood of the pipe joint is accurately delivered to the welding joint using a reflecting surface or a laser beam conductor to perform a 360° weld about a pipeline while maintaining the alignment of the laser generation and transportation system to deliver the focal power precisely along the pipe joint to be welded.

7. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Black (.US 5,227,601) in view of Motoi (JP 02127974), Imanaga et al. (JP 08267242) and further in Kawamoto (US 5,601,735) as applied to claims 1-5, 7-16, and 19-27 above, and further in view of Marhofer et al. (US 5932123).

8. Regarding claims 6-8, Black in view of Motoi, Imanaga, and Kawamoto disclose all of the limitations of the claimed invention as set forth above, except for a gas metal arc welding (GMAW) head and its components.

However, a gas metal arc welding (GMAW) head and its components are known in the art. Marhofer, for example, teaches a gas metal arc welding (GMAW) head and its components (abstract; col. 1, lines 24-40; see figure 3; col. 2, lines 60 – col. 3, lines 8; col. 5, lines 5-20). It is known in the art that such a configuration provides a means of flexibility in enabling the welder to vary different welding parameters during the welding process. It would have been obvious to one of ordinary skill in the art to modify Black in view of Motoi, Imanaga, and Kawamoto with a gas metal arc welding (GMAW) head and its components of Marhofer in order to provide a means of flexibility in enabling the welder to vary different welding parameters during the welding process.

Response to Amendment/Arguments

9. Applicant's amendments/arguments with respect to claims 1 and 6 have been considered but are moot in view of the new ground(s) of rejection.

As directed by the amendment: independent claims 1 and 6, and dependent claims 2-5 and 7-16 have been amended, claims 17-18 have been cancelled, and new claims 19-27 have been added. Thus, claims 1-16 and 19-27 are presently pending in this application.

Applicant's amendments have overcome claim objections on claim 7, abstract, specification, and 35 U.S.C. 112, second paragraph rejections from the previous Office action.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KET D. DANG whose telephone number is (571) 270-7827. The examiner can normally be reached on Monday - Friday, 7:30 - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoang Tu can be reached on (571) 272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KET D DANG/
Examiner, Art Unit 3742
May 18, 2010
/TU B HOANG/
Supervisory Patent Examiner, Art Unit 3742